In the Claims

1. (currently amended) A reflective optical device, comprising [two] non-axisymmetric reflection surfaces for bringing light fluxes from an object into focus on an image surface, the non- axisymmetric reflection surfaces being two in total, each of which is composed of a single surface, the two non-axisymmetric reflection surfaces being a first reflection surface and a second reflection surface, wherein:

the first and second reflection surfaces are disposed in this order in a direction in which the light fluxes travel, and are arranged eccentrically;

each of the first and second reflection surfaces is concave in a cross-sectional shape taken along a plane containing a center of the image surface and vertices of the reflection surfaces; and

each of the first and second reflection surfaces is a free-form surface that does not have a rotational axis.

2. (original) The reflective optical device according to claim 1, further comprising a diaphragm for limiting light fluxes, the diaphragm being disposed between the first reflection surface and the object.

3. (original) The reflective optical device according to claim 2, wherein a relationship expressed as below is satisfied:

$0.3 < d1/efy < 1.5$

where d1 represents a distance between a center of the diaphragm and the vertex of the first reflection surface, and efy represents a focal length in a plane containing the center of the image surface and the vertices of the first and second reflection surfaces.

4. (original) The reflective optical device according to claim 2, wherein a relationship expressed as below is satisfied:

$1.0 < d2/efy < 4.0$

where d2 represents a distance between the vertex of the first reflection surface and the vertex of the second reflection surface, and efy represents a focal length in a plane containing the center of the image surface and the vertexes of the first and second reflection surfaces.

5. (original) The reflective optical device according to claim 1, wherein the first reflection surface is concave in a cross-sectional shape taken in a direction perpendicular to a plane containing the center of the image surface and the vertices of the first and second reflection surfaces.

6. (original) The reflective optical device according to claim 1, wherein the second reflection surface is concave in a cross-sectional shape taken in a direction perpendicular to a plane containing the center of the image surface and the vertices of the first and second reflection surfaces.

7. (canceled)

8. (previously amended) The reflective optical device according to claim 1, wherein the free-form surface is either a curved-axis Y toric surface or a curved-axis X toric surface, each of which is defined by a function f(X,Y) in a rectangular coordinate system (X, Y) in which the X direction is a direction perpendicular to a plane containing the center of the image surface and the vertices of the reflection surfaces and the Y direction is a direction of a tangent line at a vertex, the tangent line being contained in the plane,

the curved-axis Y toric surface being such that a line obtained by connecting centers of radii of curvature of X-direction cross sections at respective Y coordinates is a curved line,

the curved-axis X toric surface being such that a line obtained by connecting centers of radii of curvature of Y-direction cross sections at respective X coordinates is a curved line.

9. (original) The reflective optical device according to claim 8, wherein the first reflection surface is a curved-axis Y toric surface or a curved-axis X toric surface, the curved axis-Y toric surface being such that a Y-direction cross section of the first reflection surface

containing the vertex thereof is asymmetric with respect to a normal line at the vertex thereof, and a curved line connecting the centers of radii of curvature of the X-direction cross sections.

10. (original) The reflective optical device according to claim 8, wherein the second reflection surface is a curved-axis Y toric surface or a curved-axis X toric surface, the curved axis Y toric surface being such that a Y-direction cross section of the first reflection surface containing the vertex thereof is asymmetric with respect to a normal line at the vertex thereof and a curved line connecting the centers of radii of curvature of the X-direction cross sections.

Claims 11-14 (canceled)

15. (original) A reflective optical device comprising at least three reflection surfaces for bringing light fluxes from an object into focus on an image surface, wherein:

the reflection surfaces are arranged eccentrically;

among the reflection surfaces, the reflection surface placed second from the object side in a direction in which the light fluxes travel is given as a second reflection surface, and the second reflection surface is concave in a cross-sectional shape taken in the vicinity of its vertex along a plane containing vertices of the reflection surfaces, and is convex in a cross-sectional shape taken in a direction perpendicular to the plane.

Claims 16-31 (canceled)

32. (previously amended) An imaging device, comprising:

the reflective optical device according to claim 1; and

a detecting means that converts a light intensity into an electric signal.

33. (original) The imaging device according to claim 32, wherein the detecting means is a two-dimensional imaging element.

34. (original) The imaging device according to claim 32, wherein the detecting means has sensitivity to light rays in an infrared range.

Claims 35-40 (canceled)

41. (original) A vehicle-mounted monitor, comprising:
an imaging device according to claim 32; and
a display means that conveys an obtained image to a driver.

Claims 42-96 (canceled)

97. (previously presented) The reflective optical device according to claim 15, wherein the at least three reflection surfaces are non-axisymmetric surfaces.

Claim 98 (canceled)

99. (previously presented) The reflective optical device according to claim 15, wherein the reflection surfaces are four surfaces that are a first surface, a second surface, a third surface, and a fourth surface in an order from the object side in a direction in which the light fluxes travel.

Claims 100-101 (canceled)

102. (previously presented) An imaging device, comprising:
the reflective optical device according to claim 15; and
a detecting means that converts a light intensity into an electric signal.

Claims 103-108 (canceled)